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EXAMINER	
BOLOURCHI, NADER	

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2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,690	TOURAPIS ET AL.	
	Examiner	**Art Unit**	
	NADER BOLOURCHI	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 March 2006_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) and/or under 35 U.S.C. 120, 121, and/or 365(c) is acknowledged.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 3/21/2006 and 10/02/2010 have been considered and made of record by the examiner.

Claim Objections

3. Claim 15 are objected to because of the following informalities: replace phrase "claim 20" with - - claim 15 - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> **(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.**

4. Claims 1-4, 8, and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Gomila et al.

(C . Gomila and A. Kobilansky, "SEI message for film grain encoding", document JVT-H022, JVT of ISO/IEC MPEG & ITU-R VCEG, Geneva, Switzerland, May 23-27, 2003).

Regarding claim 1, Gomila et al. disclose a method for reducing artifacts in a video stream (page 2, lines 5-21; Examiner notes that the artifacts are the missing film grain in the decoded images because as described in page 3 – emphasis added:

> According to the proposed strategy, supplemental information describing film grain of the original sequence is encoded in an SEI message defined by a Professional Extension of the JVT. This strategy requires the encoder to parameterize the film grain of the original sequence and the decoder to simulate the film grain according to a pre-defined model. To accomplish the film grain parameterization the encoder may need to perform an additional step in which the film grain is removed from the original source (Figure 1). In another strategy, the encoder may simply reuse the reconstructed images to model not the original film grain, but the film grain that has been suppressed by the encoding process (Figure 2). Note that the strategy implemented at the encoder is non-normative.

i.e., the disclosed method by Gomila is well suitable for reducing artifacts), comprising the steps of: decoding the video stream (Figure 1" "Decoding"); and adding random noise (page 5:, equation (2) where "N is a random value" in page 5: line 35) to at least one pixel in a picture in the video stream following decoding (Figure 1, "Film grain simulation"; page 3: line 27 "film grain simulation (decoder)" section) in an amount correlated to luminance information of at least a portion of a current picture (page 5 – emphasis added:

In a first approach, we propose to use second order auto regression to model spatial correlation and first order regression to model cross-color and temporal correlations. All correlation factors depend on intensity of the decoded image. Horizontal and vertical spatial correlation factors are related by a constant aspect ratio factor.

According to that, we suggest using the following formula to calculate the simulated grain value,

```
(2)     G(x,y,c,t,L) = p(c,L)* N +
                       q(c,L)*(  G(x-1,  y,c,t,L) + A*G(  x,y-1,c,t,L)) +
                       r(c,L)*(A*G(x-1,y-1,c,t,L) +   G(x+1,y-1,c,t,L)) +
                       s(c,L)*(  G(x-2,  y,c,t,L) + A*A*G(x,y-2,c,t,L)) +
                       u(c,L)*G(x,y,c-1,t,L),
```

where N is a random value with normalized Gaussian distribution, A is a constant pixel aspect ratio, p, q, r, s and u are correlation parameters. Parameter u is always zero for the first color channel, and grain value G assumed to be 0 whenever any index is out of range.

; see also page 4 section "Noise intensity" regarding the dependency of the amount of noise on the image intensity).

Regarding claim 2, Gomila et al. disclose as stated in rejection of claim 1 above. Gomila et al. also disclose the step of correlating the noise using a factor dependent on the temporal correlation of the current picture image with one of a previously displayed or

decoded picture. (page 5 – emphasis added:

In a first approach, we propose to use second order auto regression to model spatial correlation and first order regression to model cross-color and temporal correlations. All correlation factors depend on intensity of the decoded image. Horizontal and vertical spatial correlation factors are related by a constant aspect ratio factor.

According to that, we suggest using the following formula to calculate the simulated grain value,

```
(2)      G(x,y,c,t,L) = p(c,L)* N +
                        q(c,L)*(  G(x-1,  y,c,t,L) + A*G(  x,y-1,c,t,L)) +
                        r(c,L)*(A*G(x-1,y-1,c,t,L) +   G(x+1,y-1,c,t,L)) +
                        s(c,L)*(  G(x-2,  y,c,t,L) + A*A*G(x,y-2,c,t,L)) +
                        u(c,L)*G(x,y,c-1,t,L),
```

where N is a random value with normalized Gaussian distribution, A is a constant pixel aspect ratio, p, q, r, s and u are correlation parameters. Parameter u is always zero for the first color channel, and grain value G assumed to be 0 whenever any index is out of range.
As can be seen from the structure of equation (2), grain values for a given pixel in a given color channel are calculated recursively using previously calculated grain values. Specifically, frames are calculated in order of increasing t. Within each frame, color channels processed in order of increasing c. Within each color channel, pixels are rasterized horizontally and then vertically in order of increasing x and y. When this order is followed, all grain values required by equation (2) are automatically calculated in advance.

)

Regarding claim 3, Gomila et al. disclose as stated in rejection of claim 2 above. Gomila et al. also disclose the correlation factor is established in accordance with one of a luma or color component. (see "C" and "L" in "correlation parameters" in page 5, equation 2 – emphasis added:

In order to be able to interpret the set of parameters in the SEI message, the generator function requires specification of a generator model. Specifically, let I(x, y, c, t) be the decoded image pixel value at image position (x, y), color channel c, and frame number t. For convenience, we will assume that pixel values are scaled to have maximum value of 1. Further discussion is oriented at RGB image representation (c = 1, 2, or 3), although may be directly applied to monochromatic images and, with obvious modifications, to YUV representation.

where L(x, y, t) is a measure of local intensity in the image. One possible implementation is to define L as luminance, or a weighted sum of intensities I(x, y, c, t) over all color channels.

)

Regarding claim 4, Gomila et al. disclose as stated in rejection of claim 2 above. Gomila et al. also disclose the step of adding noise to a color component of the picture in accordance with a luma component. (see "L" in equation 2)

Regarding claim 8, Gomila et al. disclose a decoder arrangement for decoding a coded video stream to yield reduced artifacts, (page 2, lines 5-21; Examiner notes that the artifacts are the missing film grain in the decoded images because as described in page 2 – emphasis added:

According to the proposed strategy, supplemental information describing film grain of the original sequence is encoded in an SEI message defined by a Professional Extension of the JVT. This strategy requires the encoder to parameterize the film grain of the original sequence and the decoder to simulate the film grain according to a pre-defined model. To accomplish the film grain parameterization the encoder may need to perform an additional step in which the film grain is removed from the original source (Figure 1). In another strategy, the encoder may simply reuse the reconstructed images to model not the original film grain, but the film grain that has been suppressed by the encoding process (Figure 2). Note that the strategy implemented at the encoder is non-normative.

i.e., the disclosed method by Gomila is well suitable for reducing artifacts), comprising the steps of: decoding the video stream (Figure 1" "Decoding"); comprising: a video decoder for decoding an incoming coded video stream to yield decoded pictures (Figure 1" "Decoding");

a reference picture store for storing at least one previously decoded picture for use by the decoder in decoding future pictures, (page 8 – emphasis added:

Figure 6 shows the compression curve obtained by ranging the QP values from 16 to 30. The following parameters were selected to configure the JM6.1a encoder:

GOP: 16 frames (IPBBPBB)
Number of reference frames: 2
Search range: 32
Direct mode type: spatial
Entropy coding method: CABAC
Context init method: adaptive

Which means the used corresponding decoder (see the underlined encoder above) must have (implicitly) a reference picture (see underlined reference frame) stored as well, if it will be able to decode the bitstream successfully); a noise generator noise for generating random noise (page 5:, equation (2) where "N is a random value" in page 5: line 35) for addition to at least one pixel in a decoded picture (Figure 1, "Film grain simulation"; page 3: line 27 "film grain simulation (decoder)";

page 5 – emphasis added

Assuming an additive grain model, grain simulation changes each pixel value to

(1) $J(x,y,c,t) = I(x,y,c,t) + G(x,y,c,t,L(x,y,t))$,

)

in an amount correlated to luminance information of at least a portion of a current picture; (page 5 – emphasis added

In a first approach, we propose to use second order auto regression to model spatial correlation and first order regression to model cross-color and temporal correlations. All correlation factors depend on intensity of the decoded image. Horizontal and vertical spatial correlation factors are related by a constant aspect ratio factor.

According to that, we suggest using the following formula to calculate the simulated grain value,

```
(2)      G(x,y,c,t,L)  = p(c,L)* N +
                         q(c,L)*(  G(x-1,  y,c,t,L) + A*G(  x,y-1,c,t,L)) +
                         r(c,L)*(A*G(x-1,y-1,c,t,L) +    G(x+1,y-1,c,t,L)) +
                         s(c,L)*(  G(x-2,  y,c,t,L) + A*A*G(x,y-2,c,t,L)) +
                         u(c,L)*G(x,y,c-1,t,L),
```

where N is a random value with normalized Gaussian distribution, A is a constant pixel aspect ratio, p, q, r, s and u are correlation parameters. Parameter u is always zero for the first color channel, and grain value G assumed to be 0 whenever any index is out of range.

); a noise picture store for storing the noise information for subsequent use by the noise generator (see "N is a random value" in page 5, lines 29-37 and page 6: equation 3; Examiner notes that the noise in spatial and temporal correlations of previously calculated grain value of a pixel is used to generate the noise at the current pixel position, as disclosed in page 5: - emphasis added:

In a first approach, we propose to use second order auto regression to model spatial correlation and first order regression to model cross-color and temporal correlations. All correlation factors depend on intensity of the decoded image. Horizontal and vertical spatial correlation factors are related by a constant aspect ratio factor.

According to that, we suggest using the following formula to calculate the simulated grain value,

```
(2)      G(x,y,c,t,L)  = p(c,L)* N +
                         q(c,L)*(  G(x-1,  y,c,t,L) + A*G(  x,y-1,c,t,L)) +
                         r(c,L)*(A*G(x-1,y-1,c,t,L) +    G(x+1,y-1,c,t,L)) +
                         s(c,L)*(  G(x-2,  y,c,t,L) + A*A*G(x,y-2,c,t,L)) +
                         u(c,L)*G(x,y,c-1,t,L),
```

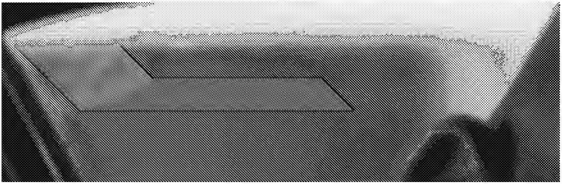
where N is a random value with normalized Gaussian distribution, A is a constant pixel aspect ratio, p, q, r, s and u are correlation parameters. Parameter u is always zero for the first color channel, and grain value G assumed to be 0 whenever any index is out of range.
As can be seen from the structure of equation (2), grain values for a given pixel in a given color channel are calculated recursively using previously calculated grain values. Specifically, frames are calculated in order of increasing t. Within each frame, color channels processed in order of increasing c. Within each color channel, pixels are rasterized horizontally and then vertically in order of increasing x and y. When this order is followed, all grain values required by equation (2) are automatically calculated in advance.

therefore, in order to enable the reuse of the noise it must be stored for every

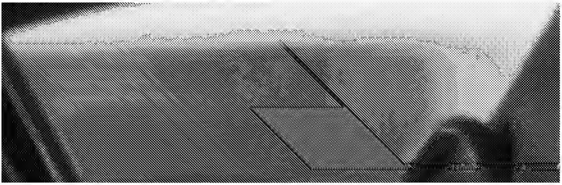
pixel, which means a noise picture store is implicitly (inherently) given); a summing block for summing the noise generated by the noise generator with a decoded picture from the decoder (see "+" in equations 1,2 and 3); and a clipper for clipping the summed noise and decoded picture. (Examiner notes that a clipper is implicitly present and inherently included, because the noise has a predetermined variance using such clipper, as disclosed in page 6 – emphasis added

In Figure 3, film grain samples were obtained by first order auto-regression, the noise being added in the RGB logarithmic color space. In (a), the variance of the random noise was set to values 0.05, 0.08, 0.11 and 0.14. In (b), the color of the grain is studied: in (b1), G and B were fully correlated to R, so the grain is perceived monochromatic; in (b2), G and B were partially correlated to R; (b3) G was fully correlated to R, while B is uncorrelated; as a result grain is perceived gray, yellow or blue. Finally in (b4), the three color components were uncorrelated.

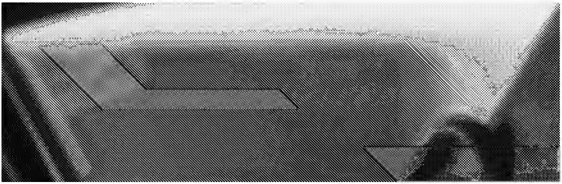
Without clipper, there will be no restriction to the maximum value of the noise amplitude. Therefore, the noise, added to the decoded pictures, led to strong visible artifacts in dark and light regions of the output images. However, no such artifacts are visible in the images of Figure 8:



(a) QP28 + film grain generated by the auto-regressive model



(b) QP28 + film grain generated by filtering Gaussian noise



(c) Original

Which is due to use of the clipper use) .

<u>Regarding claim 11,</u> Gomila et al. disclose as stated in rejection of claim 8 above. Gomila et al. also disclose wherein the noise generator generates noise in accordance with decoded pictures and bit stream information supplied from the decoder (page 5, equation 2 – emphasis added:

In order to be able to interpret the set of parameters in the SEI message, the generator function requires specification of a generator model. Specifically, let I(x, y, c, t) be the decoded image pixel value at image position (x, y), <u>color channel c</u>, and frame number t. For convenience, we will assume that pixel values are scaled to have maximum value of 1. Further discussion is oriented at RGB image representation (c = 1, 2, or 3), although may be directly applied to monochromatic images and, with obvious modifications, to YUV representation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> **(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of t9333his title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.**

5. Claims 5, 6, 13, and 14 are rejected under 35 U.S.C. 102(a) as being unpatentable over Gomila (C . Gomila, "SEI message for film grain encoding", document JVT-I013r2, JVT of ISO/IEC MPEG & ITU-R VCEG, California, USA, September 2-5, 2003) in view of Gomila et al. (C . Gomila and A. Kobilansky, "SEI message for film grain encoding", document JVT-H022, JVT of ISO/IEC MPEG & ITU-R VCEG, Geneva, Switzerland, May 23-27, 2003).

Regarding claim 5, Gomila et al. disclose as stated in rejection of claim 2 above. Gomila et al. do not explicitly disclose wherein the correlation factor is first established on an N.times.N pixel picture block basis (where N is an integer) prior to interpolation of the additive noise. Gomila, in the same field of endeavor (Examiner notes that the subject matter disclosed by Gomila is based on Gomila et al. disclosure - see page 1, paragraph 3 of Gomila and page 6 of Gomila et al.), discloses the correlation factor is first established on an N.times.N pixel picture block basis ("…each block of 16x16 pixels…" in page 3, last two pars.). Therefore, it would have been obvious to one of the ordinary skills in the art to include the teaching of Gomila et

al. in those disclosed by Gomila in order to generate the claimed invention with a reasonable expectation of success.

Regarding claim 6, Gomila et al. disclose as stated in rejection of claim 1 above. Gomila et al. do not explicitly disclose the step of adjusting the noise based on the intensity of an N.times.N block (where N is an integer) of adjacent pixels. Gomila, in the same field of endeavor (Examiner notes that the subject matter disclosed by Gomila is based on Gomila et al. disclosure - see page 1, paragraph 3 of Gomila and page 6 of Gomila et al.), discloses adjusting the noise based on the intensity of an N.times.N block ("...each block of 16x16 pixels..." in page 3, last two pars.). Therefore, it would have been obvious to one of the ordinary skills in the art to include the teaching of Gomila et al. in those disclosed by Gomila in order to generate the claimed invention with a reasonable expectation of success.

Regarding claim 13, Gomila et al. disclose as stated in rejection of claim 8 above. Gomila et al. do not explicitly disclose further including a second picture store for storing an N.times.N pixel block picture average, where N is an integer, for use by the noise generator. Gomila, in the same field of endeavor (Examiner notes that the subject matter disclosed by Gomila is based on Gomila et al. disclosure - see page 1, paragraph 3 of Gomila and page 6 of Gomila et al.), discloses adjusting the noise based on the intensity of an N.times.N block ("...each block of 16x16 pixels..." in page 3, last two pars; Examiner note that the memory is implicitly included.). Therefore, it would

have been obvious to one of the ordinary skills in the art to include the teaching of Gomila et al. in those disclosed by Gomila in order to generate the claimed invention with a reasonable expectation of success.

Regarding claim 14, Gomila discloses a decoder arrangement for decoding a coded video stream to yield reduced artifacts (section 1: par. 1), comprising:

a video decoder for decoding an incoming coded video stream to yield decoded pictures; (section 3: par. 1); a reference picture store for at least one storing at least one previously decoded picture for use by the decoder in decoding future pictures, (page 5 – emphasis added:

> In this section, we present the obtained results on five sequences from the test set used in the JVT PExt. Sequences were encoded with 8 bits (dropping the 2 LSB) using the JM6.1a version of the reference software. The following parameters were selected to configure the JM6.1a encoder:
>
> GOP: 24 frames (IPBBPBB)
> Number of reference frames: 2
> Search range: 32
> Direct mode type: spatial
> Entropy coding method: CABAC

Which means the used corresponding decoder (see the underlined encoder above) must have (implicitly) a reference picture (see underlined reference frame) stored as well, if it will be able to decode the bitstream successfully); a noise generator noise for generating noise in accordance with decoded pictures (page 3: lines 1 -5, page 3: line 28 , page 4, line 13) and bit stream information from the decoder for addition to at least one pixel in the decoded picture ("SEI message" in page 2: lines 1-3 is part of the bitstream) a picture store for storing an N x N pixel block picture average, where N is an

integer, for use by the noise generator, ("...each block of 16x16 pixels..." in page 3, last two pars.) a summing block for summing the noise generated by the noise generator with a decoded picture from the decoder. ("+" in equation (1); page 3, lines 1-5). Gomila do not explicitly disclose that the noise generator generates noise in an amount correlated to additive noise of at least one pixel in a prior picture.

However, one of the ordinary skills in the art would recognize that the problem to solve by the claim invention is how to reduce the artifact of temporal flickering due to the added noise. Gomila et al., in the same field of endeavor (Examiner notes that the subject matter disclosed by Gomila is based on Gomila et al. disclosure - see page 1, paragraph 3 of Gomila and page 6 of Gomila et al.) solve the problem by correlating the amount of the current noise to the noise of the previous frame using a temporal correlation factor v (DI: page 6, lines 6-1 1). Therefore, it would have been obvious to one of the ordinary skills in the art to include the teaching of Gomila et al. in those disclosed by Gomila in order to solve the problem posed.

6. Claims 7, 9, and 10 are rejected under 35 U.S.C. 102(a) as being unpatentable over Gomila (C . Gomila, "SEI message for film grain encoding", document JVT-I013r2, JVT of ISO/IEC MPEG & ITU-R VCEG, California, USA, September 2-5, 2003) in view of LeBlanc et al. (US 7,773,741 B1).

Regarding claim 7, Gomila et al. disclose as stated in rejection of claim 1 above. Gomila et al. do not explicitly disclose wherein the amount of noise is correlated using an

approximation of a Finite Impulse Response (IIR) filter. However, use of IIR filter for correlator for comfort noise generator is well known in the art, as disclosed by LeBlanc et al. Therefore, it would have been obvious to one of the ordinary skills in the art to include the IIR filter of LeBlanc et al. as the filter of Gomila et al. in order to generate the claimed invention with a reasonable expectation of success.

Regarding claim 9, Gomila et al. disclose as stated in rejection of claim 1 above. Gomila et al. do not explicitly disclose wherein the noise generator implements an instantiation of a Finite Impulse Response filter. However, use of IIR filter for correlator for comfort noise generator is well known in the art, as disclosed by LeBlanc et al. Therefore, it would have been obvious to one of the ordinary skills in the art to include the IIR filter of LeBlanc et al. as the filter of Gomila et al. in order to generate the claimed invention with a reasonable expectation of success.

Regarding claim 10, Gomila et al. disclose as stated in rejection of claim 1 above. Gomila et al. do not explicitly disclose wherein the noise generator implements an approximation of an Infinite Impulse Response filter. However, use of IIR filter for correlator for comfort noise generator is well known in the art, as disclosed by LeBlanc et al. Therefore, it would have been obvious to one of the ordinary skills in the art to include the IIR filter of LeBlanc et al. as the filter of Gomila et al. in order to generate the claimed invention with a reasonable expectation of success.

7. Claim 12 is rejected under 35 U.S.C. 102(a) as being unpatentable over Gomila (C . Gomila, "SEI message for film grain encoding", document JVT-I013r2, JVT of ISO/IEC MPEG & ITU-R VCEG, California, USA, September 2-5, 2003) in view of Bjontegaard (GISLE BJONTEGAARD: "Addition of comfort noise as post processing", ITU-T SG 16, VIDEO CODING EXPERTS GROUP, DOCUMENT Q15B15, Sunriver, Oregon, USA, Sep. 8-11, 1997),

8.

Regarding claim 12, Gomila et al. disclose as stated in rejection of claim 8 above. Gomila et al. do not explicitly disclose wherein the bit stream information comprises a quantization parameter. Bjontegaard, in the same field of endeavor, the bit stream information comprises a quantization parameter (see QUANT parameter in calculation of integer I_1 in page 1, section 2). Therefore, it would have been obvious to one of the ordinary skills in the art to include quantization parameter of the teaching of Bjontegaard , in the bit stream of Gomila et al. in those disclosed by Gomila in order to generate the claimed invention with a reasonable expectation of success.

9. Claim 15 is rejected under 35 U.S.C. 102(a) as being unpatentable over Gomila et al. (C . Gomila and A. Kobilansky, "SEI message for film grain encoding", document JVT-H022, JVT of ISO/IEC MPEG & ITU-R VCEG, Geneva, Switzerland, May 23-27, 2003) in view of LeBlanc et al. (US 7,773,741 B1).

Regarding claim 15, Gomila et al. disclose as stated in rejection of claim 14 above. Gomila et al. do not explicitly disclose wherein the noise generator implements an

instantiation of a Finite Impulse Response filter. However, use of IIR filter for correlator for comfort noise generator is well known in the art, as disclosed by LeBlanc et al. (US 7,773,741 B1). Therefore, it would have been obvious to one of the ordinary skills in the art to include the IIR filter of LeBlanc et al. as the filter of Gomila et al. in order to generate the claimed invention with a reasonable expectation of success.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Childers; Jim et al. (US 5210836 A); Thompson; John E (US 3562420 A); Boyce; Jill Macdonald et al. (US 20060256871 A1); Stephens, James Allen et al. (US 20040204934 A1); O'Brien, Royal (US 20020061062 A1)

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nader Bolourchi whose telephone number is (571) 272-8064. The examiner can normally be reached on M-F 8:30 to 4:30.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David. C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/N. B./
Examiner, Art Unit 2611

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611